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Compilation Guide of Procedural Decisions on EPA NSPS (Environmental Protection Agency New Source Performance Standards) Reference Methods

PEDCo-Environmental, Inc., Cincinnati, OH

Prepared for

Environmental Protection Agency, Washington, DC

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16. ABSTRACT

This manual presents a compilation of the past performance test procedural decisions. The manual also explains how alternative procedures and methods should be submitted for review and approval and documentation. Finally, this manual provides a list of example issues related to performance testing and the corresponding responses from the EPA Regional Offices.

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Washington, D.C. 20460

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DISCLAIMER

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SECTION 1

INTRODUCTION

The U.S. Environmental Protection Agency's (EPA) Standards of Performance for New Stationary Sources are contained in Title 40 Part 60 of the Code of the Federal Regulations (40 CFR 60). The reference test methods for these performance standards are in Appendix A of 40 CFR 60. Because many of the performance standards use the same reference method(s), each performance standard contains a subpart on test methods and procedures that describes additional requirements, specifications, calculations, and procedures to make the application of the reference method more specific to each source category (source specific). These additional requirements and specifications provide a better defined source specific reference test method. Furthermore, as a result of the large variation in process and control equipment design and operation and testing conditions, numerous performance evaluation applications and techniques must be defined on a site specific basis. Decisions on these site specific procedures, not addressed in the Federal Register, have been made by the EPA Regional and Headquarter Offices. The Stationary Source Compliance Division (SSCD) maintains a record of all "applicability determinations" made in response to written requests regarding 40 CFR 60. A compilation of the determinations, which includes many performance testing decisions is provided to the EPA Regional Offices. Other EPA groups have logged their decisions and made some decisions known through announcement in the Federal Register. To date, however, no complete compilation of performance test related decisions is available on a national basis although these decisions can have a significant impact on defining both the regulations and test methods.

The purposes of this manual are to 1) provide a compilation of the past performance test procedural decisions, 2) explain how alternative procedures and methods should be submitted for review and approval and documentation, and 3) provide a list of example performance test questions and the corresponding responses from the EPA Regional Office staff on how these questions are

generally handled by the Regional Offices. The procedural decisions included in this manual deal only with the decisions made to develop, execute, and evaluate the performance tests as they relate to the reference test methods. All procedural decisions with respect to the applicability of regulations for specific sources and continuous emissions monitoring have been excluded from this compilation.

This compilation represents an initial step to provide better documentation and summarization of these procedures. If program resources permit, this compilation will be periodically updated and/or an alternative methods clearinghouse will be established.

It is important that States delegated New Source Performance Standard (NSPS) responsibility are promptly informed of EPA decisions on the methods and performance standards. The attempt to gather procedural decisions for this compilation greatly demonstrated the urgent need to improve the system for obtaining and documenting procedural decisions and to better inform the delegated States of their responsibility.

Section 2 of this compilation contains a description of the guidelines for evaluating and submitting alternative methods and the procedures for requesting approval of alternative methods and other technical assistance. These procedures and criteria should help facilitate the application and approval of alternative methods and procedures and improve the documentation and reporting of the decisions at the regional and state agency levels. Section 3 consists of a compilation of responses from the EPA Regional Offices to issues related to performance testing. These issues were selected from a list of questions compiled by EPA Headquarters as a result of inquiries from field personnel. Section 4 consists of a compilation of past performance testing decisions that have been organized in alphanumeric order according to the subparts of 40 CFR 60. The reference and supportive material for the decisions are kept on file by the agency making the decision. This material was too extensive to attempt to include in this compilation and the intent of each decision can generally be properly explained only by the individual charged with making the decision.

SECTION 2

PROCEDURES FOR HANDLING ALTERNATIVE METHODS AND PROCEDURES REQUESTS

This section consists of the Guidelines for Evaluating and Submitting Alternative Methods[1] paper, procedures for requesting approval of alternative methods, and other technical assistance and recommendations for establishing a filing system for the procedural decisions.

2.1 GUIDELINES FOR EVALUATING AND SUBMITTING ALTERNATIVE METHODS

The NSPS regulations (40 CFR Part 60) provide for the application and approval of alternative test methods and procedures for new source performance tests. This document describes procedures and criteria to facilitate the application and approval of alternative methods and procedures. Because similar provisions are contained in 40 CFR Part 61, which pertains to hazardous air pollutant standards, this document also applies to the methods contained in Appendix B of 40 CFR Part 61.

2.1.1 Authority Citations

Reference methods and approved alternative methods are published in Appendix A of 40 CFR Part 60. These methods are cited in § 60.8 (Performance Tests) and § 60.11 (Compliance with Standards and Maintenance Requirements) in Subpart A (General Provisions). Specific authorized uses of the 40 CFR Part 60 Appendix A methods are described in the standards of performance contained in the subparts of Part 60, beginning with Subpart D.

Within each standard of performance, a section entitled "Test Methods and Procedures" (or similar) is provided to 1) identify the test methods applicable to the facility subject to the respective standard and 2) identify any special instructions or conditions to be followed when applying a method to

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[1] Roger Shigehara, Guidelines for Evaluating and Submitting Alternative Methods.

the respective facility. Such instructions may establish, for example, sampling rates, volumes, or temperature, and may either supplement or replace procedures in a reference method. As an example, § 60.46(b) states:

> For Method 5, Method 1 shall be used to select the sampling site and the number of traverse sampling points. The sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that smaller sampling times or volumes, when necessitated by process variables or other factors, may be approved by the Administrator. The probe and filter holder heating systems in the sampling train shall be set to provide a gas temperature no greater than 433°K (320°F).

Similarly, for sources subject to emission monitoring requirements, the standards of performance provide specific instructions pertaining to the use of a reference or alternative method in the subpart or in the continuous monitor performance specifications in Appendix B of Part 60.

The approach followed in the formulation of the reference methods involves specifications for equipment, procedures, and performance. In concept, a method based totally on performance specifications allows the greatest flexibility to the user. In practice, however, this approach is impractical because in most cases performance specifications cannot be established. Most of the methods in Appendix A of Part 60, therefore, involve specific equipment specifications and procedures, and only a few methods rely solely on performance criteria.

EPA recognizes that minor changes in the reference or alternative methods do not necessarily affect the validity of the test results, and that acceptable alternative methods exist. Therefore, § 60.8(b) provides authority for the Administrator to specify or approve revisions to reference methods or the use of alternative methods. It states:

> Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology .....(3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance.....

Guidelines and further explanation of alternative methods are given in the introduction to 40 CFR Part 60 "Appendix A - Reference Methods."

Section 60.13(i) covers the approval of alternatives to continuous monitoring procedures or requirements as follows:

> After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of this part.....

The source should clearly understand that unless otherwise identified (see next paragraph) the use of all such methods and changes should have prior approval of the Administrator. A State or local agency or a source that employs such methods or deviations from the reference or approved alternative methods without obtaining prior approval does so at the risk of subsequent disapproval and retesting with approved methods.

2.1.2 Approval Authority

The "Administrator" has the authority to approve revisions or alternative methods. In § 60.2, the "Administrator" is defined as "the Administrator of the Environmental Protection Agency or his authorized representative." Authorized representatives are officials in the EPA Regional Offices or in State or local governments that have been delegated responsibility for enforcing regulations under 40 CFR Part 60. However, in cases where decisions could affect uniform, nationwide application of the standards, e.g., new methods or procedures, the approval authority lies within the Emission Standards and Engineering Division of the Office of Air Quality Planning and Standards.

Approval of alternative methods or procedures may be requested in a number of instances:

1. Contingency. Because of unforeseen occurrences during the test or peculiarities of the test site, the tester may need to modify sampling procedures. Approval of such modifications applies only to the test being conducted. Examples of these occurrences or peculiarities are using a fewer number of traverse points because of time limitations, substituting one traverse point with another because of interference from a structural support in the stack or ductwork, and using a flask-evacuation pressure of 4 in. Hg absolute instead of 3 in. Hg for Method 7 because of problems with the vacuum pump.

Contingency requests are of necessity handled in the field by the Administrator's representative in the EPA Regional Office or State or local

government. It is the performance tester's responsibility to provide an evaluation of how the alternative affects the final emission results and relevant information that support the evaluation. The Administrator's representative may approve or disapprove the alternative based on an engineering evaluation of the material presented and other relevant information. If there is no clear indication as to how the results will be affected, decisions may be made based on engineering judgment. However, if a decision is made to approve the alternative method, then subsequent use of the alternative on the test for which it was approved is not to be used as the basis to reject the test at a later time. All approved alternatives must be described in the test report.

In some cases, the Administrator's representative may elect to postpone the decision for an alternative until the test samples are analyzed and the emission rates calculated. In this circumstance, after the results have been calculated, the performance tester is given the option of voluntarily voiding the test and performing a retest. Generally, the Administrator's representative accepts tests where calculations show that the source is clearly in compliance. Another test may be requested if calculations show marginal compliance. For example, if the alternative tends to cause emission rates to be positively biased and the calculated emission rate is less than the standard, then the source would be clearly in compliance, and the test would be acceptable. If, however, the alternative tends to cause the calculated emission rate to be negatively biased and the calculated emission rate is just below the standard, a retest may be requested. This final decision is based on the estimated negative bias of the alternative.

2. Minor Changes in Procedures or Equipment. Within the reference methods, certain equipment or procedures are cited as being acceptable or potentially acceptable options by the phrases "subject to the approval of the Administrator" and "or equivalent." Detailed descriptions are not provided because they are not necessarily acceptable in all applications. These options may be used without prior approval of the Administrator, at the discretion of the tester, provided the tester is responsible for: 1) assuring that the equipment and procedures are in fact applicable and are properly executed; 2) including a written description of the equipment and procedures

in the test report; and 3) providing any rationale or supporting data necessary to show their validity in the particular application. The written procedures must be clear and must be capable of being performed without additional instruction. The degree of detail should be similar to the detail contained in the reference methods. Failure to meet these requirements can result in the Administrator's disapproval of the option. The basis for a negative decision should be thoroughly explained.

Other minor deviations from the sampling and analytical procedures must be approved by the Administrator prior to use, e.g., using a Teflon-lined probe in Method 8 and changing the peroxide reagent from 3 percent to 6 percent for Method 6. Requests for approval should be directed to the appropriate regional, State, or local authority. All requests for and all approvals or disapprovals of such minor deviations should be in writing. All requests should include the following information:

a. The specific portion or portions of the method that are being affected.

b. A description of each deviation. The following should be considered as appropriate: description of equipment with sufficient specifications and calibration procedures to show that the equipment is capable of meeting the specified requirements; clearly written procedures capable of being performed without additional instructions; correct calculations and equations; adequate quality assurance and quality control procedures and performance criteria; sufficient precision and accuracy; absence of or known sampling and analytical interferences; limitations placed on its use; applicable range of method.

c. Rationale or supporting data. Rationale or supporting data that demonstrate the validity of the deviation should be included. The following should be considered: laboratory tests; field comparative tests; literature documentation (include copies); theoretical considerations; statistical calculations or comparisons; biases.

3. New Methods. New methods are those methods or portions (e.g., sampling or analytical procedure) of methods that differ in principle from the reference methods. For example, a requested alternative to Method 7 might be an impinger train sampling procedure instead of grab sample flasks; or it might be an ultraviolet instead of the phenoldisulfonic acid analytical procedure; or it might be an instrumental method.

All requests of this nature should be made to the U.S. Environmental Protection Agency, Emission Measurement Branch, MD-19, Research Triangle Park, NC 27711. All requests must be in writing using the form shown in Figure 1 and should include the following:

a. The specific application of the alternative. The specific source or category of sources for which the alternative would apply. The applicable ranges of concentrations, precision, interferences, any known limitations, and purpose for conducting the test (e.g., compliance, research, operation and maintenance, control system optimization, etc.).

b. A description of the alternative method or equipment. All alternative methods must be clearly written and must be capable of being performed without additional instructions (the degree of detail should be similar to that contained in the reference methods). The method should include the following items: applicability of the method, definition of terms, description of apparatus including applicable equipment specifications, list of reagents, sampling and analytical procedures, calibration procedures including frequencies of recalibration, calculation procedures, and references. If applicable, quality assurance and quality control procedures and performance criteria should be included. If the alternative method is a standard method (e.g., ASTM procedures), a copy should be provided.

c. Rationale or supporting data. Rationale or supporting data that demonstrate the validity of the alternative should be included. As a minimum, the request should include the following as applicable:

   1. Laboratory tests against "knowns," with sufficient data to establish the precision and accuracy of the method under laboratory conditions. At least three levels should be used, with one close to the level of the standard.

   2. Data to show that calibration can be conducted to show compliance with the proposed specifications. Proposed frequency of calibration should also be included.

   3. Comparative data under field conditions with the reference method. Generally, at least nine sets of comparative data (paired tests) at representative levels of concentrations (close to the level of the standard) should be adequate. A statistical evaluation of the data should be provided. Generally, for the method to be acceptable, a t-test comparison should show that there is no bias at the 95 percent confidence level or that the bias is positive. However, if the data show good agreement (i.e., within 5%) with the reference method and good precision, but the t-test comparison

ALTERNATIVE METHOD APPROVAL REQUEST

I. Requesting Organization

Name _____

Address _____

_____

Contact Person _____ Telephone _____

II. Specific Application of the Alternative Method

State specific source category of sources for which alternative would apply. Include applicable ranges of concentrations, precision, interferences, any known limitations and purpose for conducting the test.

_____

_____

_____

_____

_____

_____

_____

III. Description of the Alternative Method

Submit a clearly written description of the alternative method capable of being performed without additional instructions (the degree of detail should be similar to that contained in the reference methods). If the alternative method is a standard method (i.e., ASTM method), a copy should be provided.

Figure 1. Alternative method approval request form.

IV. Supporting Data

Include any rationale or supporting data that demonstrate the validity of the alternative. As a minimum, the following should be submitted as applicable: (please check if submitted)

Laboratory tests with sufficient data to establish the precision and accuracy of method under laboratory conditions.

Data to show that calibration can be conducted to show compliance with the proposed specifications.

Comparative data under field conditions with the reference method.

Data to show the adequacy of the quality assurance, quality control, or performance criteria.

Figure 1. Alternative method approval request form. (continued)

yields a value outside the range of acceptability, the method could still be approved, depending on the application and circumstances (e.g., the emission levels are well below the standard) or with certain restrictions.

4. Data to show the adequacy of the quality assurance, quality control, or performance criteria.

2.1.3 Correspondence Control

1. Upon receipt of the written application, the Administrator or authorized representative must conduct a technical review of the material and provide a written approval or disapproval. All disapprovals should clearly state the reasons for denial. When additional technical assistance is required, the Regional Office or the Emission Measurement Branch may be contacted. Figure 2 is an example of the form that can be used to seek technical assistance.

2. So there can be a record of all requests, approvals, and disapprovals, a copy of all pertinent correspondence should be sent to the Emission Measurement Branch. This record would provide a source of information for testers and regional, State, and local authorities to facilitate decisionmaking.

3. Requests for new methods or procedures that are of limited application, generally to one or two sources and specific to a source, may be answered by the regional, State, or local authority, with approval from the Emission Measurement Branch.

4. Approved alternatives with nationwide applicability will be considered for publication in the Federal Register under the proposal and promulgation processes of rulemaking. Letter approvals may be used as the means of using such alternatives in the interim before promulgation.

2.2 RECOMMENDATIONS FOR ESTABLISHING A FILING SYSTEM OF PROCEDURAL DECISIONS

The small number of procedural decisions that were made available by the EPA Headquarter and Regional Offices indicate that more attention needs to be paid to putting these decisions in writing and establishing a central filing system to log and retain the decisions. A compilation of the decisions will provide greater national consistency in decisionmaking and additional technical assistance to the State and local agencies when it is needed.

The filing and/or logging of the decisions in a single location could also prove to be useful to agencies performing these duties by providing the

TECHNICAL ASSISTANCE REQUEST

I. Requesting Organization

Name and address: _____

_____

_____

_____

Contact Person _____ Telephone _____

II. Statement of Request (State the nature of the request or give a brief description of the type of assistance needed.)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

III. Background Information and Supporting Data (Provide any available background information, past decisions, supportive data or other information that could be helpful.)

_____

_____

_____

Figure 2. Technical assistance request form. (continued)

Technical Assistance Request (continued)

IV. Procedures or Solutions Considered (Provide a listing of all the procedures and/or solutions that are under consideration by the agency and/or source. Please indicate if any of these have been previously implemented by the agency and which procedure is preferred by the agency.)

Figure 2. Technical assistance request form.

technical staff a reference to determine if a similar procedural decision has been made in the past. Therefore, it is suggested that all agencies delegated NSPS and NESHAP authority establish a filing and logging system.

It is recommended that the procedural decisions be logged using the same format as those in Section 4. Figure 3 is an example sheet that can be used to log procedural decisions. A code should be established for the agency using the applicable subpart letter as the first digit of the code. The sheets can be arranged in a binder according to subpart. To increase the effectiveness of the file and provide ready access, it is also recommended that all the supportive documentation on each procedural decision be copied and put in a separate folder in the file.

Code	Reference	Question	Affected regulation	Determination	Discussion

Figure 3. Format for logging procedural decisions.

SECTION 3

PERFORMANCE TESTING ISSUES AND RESPONSES

This section consists of a compilation of responses from the EPA Regional Offices to issues related to performance testing. The issues were selected from a list of questions compiled by EPA Headquarters as a result of inquiries from field personnel over a period of several years. Each response represents a summary of individual responses to the questions by each Regional Office. It is felt that these questions are good representations of some of the issues and problems that agency personnel are confronted with during performance test planning and execution. The responses also demonstrate the need for increased documentation of alternative methods and procedures and technical assistance to the NSPS delegated agencies. Agreement on the response does not mean that it is correct or suitable. There may be agreed upon responses that may be incorrect as a result of the lack of a formal determination by EPA on the question.

PERFORMANCE TEST SURVEY
PROCESS AND CONTROL SYSTEM CONDITIONS DURING PERFORMANCE TESTING

Issue	Response	Applicable regulation	Formal determination
Is extraordinary fine tuning of process or control equipment just before and during performance tests permissible?	The unanimous response was that fine tuning is allowed prior to the performance test. Operating parameters after fine tuning and during the performance test should be meticulously recorded to provide a data base to be used in evaluating the process during follow-up inspections. Several respondents felt that there was no way to prevent fine tuning.	60.8	
Is washing or cleaning of ducts and precipitators before a compliance test allowed?	The response from those that had addressed this issue was that washing or cleaning prior to testing was allowed since it was felt that there was no way to prevent it.	60.8	
How much may a source dilute exhaust gas or have process "inleakage" during the performance test when the emissions are regulated by a concentration standard?	The general response was that no inleakage is allowed. It was felt that regulations with concentration standards had O_2 or CO_2 corrections to prevent dilution. In cases where an O_2 or CO_2 correction was not included, inleakage should be restricted to the generally accepted practices for the specific industry in question.	60.12	
Can nonplant employees other than regular scheduled plant personnel monitor, control, or operate the process/control system during the performance test?	Overall consensus is that it is not permissible for nonplant employees to operate or control the process and control system during the performance test. Several respondents felt that nonplant employees could not be prevented from participating as operators during the compliance test.	60.8	

Issue	Response	Applicable regulation	Formal determination
Is it permissible to have outside expert consultants on-site to direct and supervise plant operation and maintenance during the performance test?	The majority of respondents felt that it is permissible to have outside expert consultants on-site to direct and supervise plant operation and maintenance during the performance test.	60.8	
Is the use of auxiliary instrumentation to set or maintain exact process conditions during performance tests acceptable?	Most respondents felt that the use of auxiliary instrumentation was inappropriate and would not be allowed during performance tests.	60.8	
	SAMPLING AND ANALYSIS PROCEDURES		
Do you allow waiver of stack tests?	Most respondents stated that waiver of stack tests was not allowed. Several respondents reported that states with NSPS authority had waived the requirement for stack tests.	60.8	
What is the criteria for determining if a "safe" sampling platform is furnished?	Most respondents reported that there were no criteria to use in determining if a platform is safe. Two respondents stated that sampling platforms must meet OSHA standards and one respondent reported having safety standards to use as a guide.	60.8	
Can the source owner or operator be required to calibrate process instrumentation?	The majority of respondents felt that the source can be required to calibrate process instrumentation prior to the performance test.	60.8	

Issue	Response	Applicable regulation	Formal determination
Who records process data: operator, observer, or tester?	Most respondents felt that any of the three could record process data. However, the majority felt the plant was ultimately responsible for process data.	60.8	
If the source has double breeching leading to the stack and the tester wants to sample in the ducts instead of the stack, should the sampling on each duct be on a sequential or simultaneous basis?	The unanimous response was that sampling should be conducted on a simultaneous basis.		
If the effluent gas is lower than 250°F, should the probe and hot box heater be adjusted to maintain stack conditions?	The majority of respondents stated that the sample train probe and filter box should be maintained at the temperature specified in the standard. Operating at a lower temperature would cause a high bias and is acceptable to the agency although most respondents felt the industry would not permit it.	Appendix A	
Can two separate sampling trains be operated simultaneously and the results combined?	The overall consensus among the respondents is that two sampling trains should not be operated simultaneously and the results combined.	Appendix A	
Can the filter and its catch be combined with the acetone wash of the probe and filter holder for analysis?	Most respondents felt that combining the filter with the acetone wash of the probe and filter holder was incorrect and should not be allowed.	Appendix A	

Issue	Response	Applicable regulation	Formal determination
What is the largest particle which is considered particulate?	The general response was that there were no clear guidelines defining particulate with respect to size. Several respondents felt that whatever was caught by the sample train should be considered particulate.	Appendix A	
What do you do with runs outside the percent isokinetic limits which clearly demonstrate compliance or noncompliance?	The majority of the respondents stated they use the procedures presented in the paper, "A Guideline for Evaluating Compliance Test Results" (Isokinetic Sampling Rate Criterion) by R. T. Shigehara.	Appendix A	
Do you allow Method 17 for industrial boilers with stack temperature >320^{0}F?	The overall response was that Method 17 would not be allowed in this case. Most respondents felt that Method 17 should be restricted to use in those cases specified in the standards.		D-98
Is an orifice meter and a dry gas meter required in the Method 5 train?	The overall response was that both an orifice and a dry gas meter are required in the Method 5 sampling train?	Appendix A	
Is the Rader sampling equipment an acceptable alternative method for Method 5 in specific cases?	The general response was that the Rader sampling train is not an acceptable alternative method for Method 5.	Appendix A	HH-IV
How do you sample effluent with 50% to 95% H_2O content?	Most respondents had no solution to this problem. Several suggestions were made which included using cyclones, knock out jars and larger or more impingers. One respondent suggested sampling nonisokinectically; it was also reported that one state had a method for high moisture sources.		

Issue	Response	Applicable regulation	Formal determination
How do you sample sources with large temporal variations in $\%H_2O$?	The respondents did not have a solution for sources with large temporal variations in $\%H_2O$.		
Is there an acceptable method for sampling cyclonic flow in a stack or duct?	The majority of respondents felt that there was no acceptable method to sample cyclonic flow and suggested that the flow be straightened or another site selected.		
Are straightening vanes an acceptable technique for alleviating cyclonic flow?	The unanimous response was that straightening vanes are an acceptable technique for alleviating cyclonic flow.		
What procedure is used when negative velocity readings are observed?	The responses to this problem varied. Several respondents suggested ignoring these points while several others pointed out that negative velocity indicated that cyclonic flow exists and the site should be evaluated for suitability according to Method 1 procedures.		
In what time period must a test be completed? Must a test run be completed on the day started?	The majority of respondents stated that a test run must be completed on the day it is started.		
Is proportional sampling of CO_2 and O_2 necessary?	The overall consensus of the respondents was that proportional sampling of CO_2 and O_2 is not necessary.		

Issue	Response	Applicable regulation	Formal determination
What alternative test method can be used to sample unconfined "fugitive" emissions, i.e., open top baghouses, grain elevators, etc.?	Most respondents suggested the use of Method 5D. Several suggestions consisted of confining the source and using Method 5.		
	HANDLING AND REPORTING OF TEST DATA		
How can you reject outliers in source test data (using 3 test runs)?	All respondents stated that they do not reject runs as outliers. The feeling was that with only three runs you can't really label a run as an outlier. All runs would be averaged to determine the emission rate unless there were adequate documentation that results of one of the runs were unreliable or not representative.		
What is the criteria for accepting two test runs instead of three runs if circumstances prevents obtaining three valid runs?	Most respondents stated one or more of the circumstances outlined in 60.8(f) as criteria for considering two runs. Source problems were cited as the most acceptable circumstance and if a run was found to be unacceptable while still in the field, another run would be required before leaving the site.	60.8	
What method should be used in rounding of test data in intermediate calculation steps and reporting of final test results?	The majority of respondents supported rounding of the final test results to one decimal point pass the significant figures of the standard, using the ASTM method.		
What are the significant figures of the standard?	The majority of the respondents didn't know what the significant figures of the standards are.		A-59

Issue	Response	Applicable regulation	Formal determination
How should conversion between English and metric units be handled?	The general response was that conversion between English and metric units should be made using the standard conversion factors typically used in air pollution data reporting.		
In what units should the test results be reported?	Several respondents suggested that test results should be reported in units of the standard. Several others suggested that test results should be reported in English units.		
	COMPLIANCE DETERMINATIONS AND FINDINGS OF VIOLATION		
Should full chain of custody procedures be required in collection, handling, transport and analysis of the samples?	Most respondents stated that full chain of custody procedures should be required during performance test programs.		
	Several respondents stated that chain of custody was not a major consideration in performance test programs.		
What is the precision and accuracy of the process measurements used in calculating emissions in units of the standard?	None of the respondents had any feel for the precision and accuracy of process measurements.		
Can the source tester be required to certify or vouch for the validity or representativeness of process measurements and conditions.	The majority of respondents felt that the source tester could not be required to certify or vouch for the validity of process measurements and conditions.		

Issue	Response	Applicable regulation	Formal determination
May the source tester submit the performance test report directly to the agency for approval?	Most respondents preferred that the source review the report and certify the process conditions prior to submitting to the agency.		
Must measurement error be considered in finding a violation and initiation of enforcement action?	Half of the respondents felt that measurement error should be considered in finding a violation and initiation of enforcement action. The other half felt that measurement error had been considered when the standards were set. The respondents unanimously stated that this was a legal question and that the decision would be made by an attorney rather than the technical staff.		
How do you use the results of audit samples?	The majority of respondents stated that the results of audit samples would be used as an indication of the accuracy of the results reported in the test report. Several of these respondents also indicated that results may be adjusted or rejected if results of audit samples deviated significantly from the true value. Several respondents were not sure what to do with the results of audit samples.		

SECTION 4

COMPILATION OF PROCEDURAL DECISIONS

This section contains procedural decisions on NSPS regulations and methods. The decisions are arranged according to their applicable subpart of 40 CFR 60. All decisions for SSCD have the subpart letter followed by a dash and a number. Further information can be obtained from SSCD by citing the code number. The EPA Regional Office decisions have the subpart letter, a dash, and the region's number. Additional information on these decisions also can be obtained by calling the specific Regional Office. A listing of the EPA Regional Contacts is shown below.

The extremely small number of procedural decisions indicates that most EPA groups had not set up a separate file and/or had not put their decisions in writing. In an effort to provide a more useful update to this manual, it will be necessary and is advisable for all agencies delegated NSPS and NESHAPS authority to make their decisions in writing and put a copy in a separate file for the purpose of obtaining national consistency in the decisionmaking process.

List of Regional Contacts

Chief, Air Section
Environmental Services Division
U.S. EPA, Region I
60 Westview Street
Lexington, MA 02173

Director
Environmental Services Division
U.S. EPA, Region III
Sixth and Walnut Streets
Philadelphia, PA 19106

Chief, Air Compliance Branch
Air Management Division
U.S. EPA, Region V
230 South Dearborn Street
Chicago, IL 60604

Chief, Air Monitoring Section
Environmental Services Division
U.S. EPA, Region II
Raritan Depot
Edison, NJ 03837

Chief, Air Management Branch
Air and Waste Management Division
U.S. EPA, Region IV
345 Courtland Street, Northeast
Atlanta, GA 30365

Director
Environmental Services Division
U.S. EPA, Region VI
1201 Elm Street
Dallas, TX 75270

Director
Environmental Services Division
U.S. EPA, Region VII
25 Funston Road
Kansas City, KS 66115

Director
Air Management Division
U.S. EPA, Region IX
215 Fremont Street
San Francisco, CA 94105

Director
Environmental Services Division
U.S. EPA, Region VIII
Post Office Box 25366
Denver, CO 80225

Director
Environmental Services Division
U.S. EPA, Region X
1200 Sixth Avenue
Seattle, WA 98101

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART A

Code	Reference	Question	Affected regulation	Determination	Discussion
A-12	Olin Corp. Sulfuric Acid Plant (Harrison, R-VI) 8 Oct 75	Calculations indicate that a process modification will probably not result in an increase in emissions, but this is not certain. Are performance tests necessary?	60.2(b)	Yes	Tests must be made before and after the modification for emissions of SO_2 and acid mist.
A-26	Letter to Clark Oil & Refining Corp. (T. Voltaggio to R. Bruggink) 27 Aug 76	Does the Tutwiler method (DOP Method 9-59) adequately demonstrate compliance with SO_2 NSPS for the Wood River Refinery?	60.8(b)(4)	Yes	This determination does not mean that the Tutwiler method is an approved equivalent or alternative method for NSPS compliance.
A-42	Memo to R-IV (E. Reich to J. Wu) 29 Sept 77	What procedure should be followed when an affected facility has not been performance tested in the 180 day period following startup due to shutdowns caused by equipment malfunction?	60.8(a)		Consider issuing a 113(a) order requiring the owner or operator to notify the Administrator upon restartup (by telephone; to be followed by confirmation in writing) and also requiring a performance test as soon as practicable thereafter but no later than 30 days after restartup. If the facility is unable to operate at the maximum production rate for the initial performance test, a subsequent performance test may be required when the facility achieves maximum production in order to assure compliance with the standard.

Code	Reference	Question	Affected regulation	Determination	Discussion
A-56	Memo to R-VIII (E. Reich to L. Vinson) 20 Aug 79	May a source remove continuous monitors during performance testing?	60.13(b), (e)	No	Under Section 60.13(e), continuous monitoring systems must be in continuous operation except for system breakdowns, repairs, calibration checks, and zero and span adjustments. These exceptions do not include performance testing.
A-59	Memo (Reich to Jacobs) 20 Aug 80	a) Where the performance standard is stated in two significant digits (e.g., 0.04 gr/dscf) what procedures are to be applied by the region in determining compliance when the test results are stated in terms of three significant digits?	60.8		Legally, anything greater than 0.04 is a violation (e.g., 0.0401). However, most engineers tend to round off results and therefore 0.044 would be reported as .04 and .045 would be reported as .05. A better guide would be that anything showing greater than a 10% excess is worth considering for enforcement action.
		b) What discretion do the regions and delegated states have in waiving testing requirements? Can tests be waived based on an agreement by the source to conduct annual baghouse leak checks or other O&M practices?	60.8(b)		Regions have authority to waive performance tests or (in this case) a retest providing they obtain assurances from DSSE that the waiver is consistent with national policy. Delegated states cannot unilaterally waive performance tests.
		c) Does the region have the authority to allow the state to waive the specific stack test for the asphalt plant in Geneva, Nebraska?	60.8(b)	Yes	Yes (see 59b above). As a policy matter, stack tests should only be waived in compelling circumstances. In this case the question is whether the stack test, already performed, coupled with certain other actions, can support a finding the standard will be met, thus obviating the need for a retest. These other actions should include documentation by a competent engineer that the cause for any excess emissions has been eliminated, and it can reasonably be said that a retest would show compliance.

Code	Reference	Question	Affected regulation	Determination	Discussion
A-65	Letter (Reich to Chavez) 2 July 82	Performance testing of an asphalt plant showed particulate emissions averaging 0.038 gr/dscf, compared to the NSPS limit of 0.04 gr/dscf. In performing the test, 25 traverse points, rather than the minimum number of 42 required by 40 CFR 60, Appendix A, were used. Additionally, nozzles were changed during one of the runs, resulting in a run that was 66% ioskinetic. Is this performance test valid? The source has contended that since EPA is considering reducing the minimum number of traverse points, and since the average of the three runs showed compliance, the test should be considered valid.	60.8(f), Part 60, Appendix A, Method 1	No	60.8(f) requires that a performance test be based on three valid test runs, except under certain enumerated conditions which do not apply in this case. The test was not performed according to Method 1 format for determining the minimum of traverse points. Since there is no indication that this provision will be changed in the near future, testing must be governed by EPA procedures currently in place. The test is invalid.
A-66	Memo (Rasnic to Voltaggio) 23 July 82	Can instrumental performance methods for NO_2 and O_2 be used in lieu of EPA test Methods 7 and 3 during performance testing?	60.8, 60 Appendix A	Conditional	At least three relative accuracy test runs should be made before and after the performance test. The results of the relative accuracy tests and the measured emission levels relative to the emission standard could then be used to determine the acceptability of the instrumental measurement data. This extensive verification procedure is necessary because the proposed instrumental measurement method represents an equivalent method as provided in 60.8, and its approval requires the same protocol and technical data support as is required for any other proposed test method.

Code	Reference	Question	Affected regulation	Determination	Discussion
A-68	Memo (Meyers to Kee) 2 Aug 83	What criteria should states follow when reviewing requests for NSPS performance test waivers? This is of particular concern for asphalt plants.	60.8(b)		Test waivers should be allowed only where EPA is virtually certain that a test would show compliance, and is dependent on the particular source and circumstances. Therefore, a case-by-case evaluation is needed. Performance test results help EPA evaluate the validity of set emission limits, and where significant quantities of waivers have been granted, the resulting lack of data has hampered EPA in evaluating revisions to the standards. Other applicability determinations (A-59, I-II, GG-4, GG-5) provide some indication of how OAQPS evaluates a waiver request, how related such an evaluation is to source specifics, and why establishing blanket waiver criteria would not be practical or ensure compliance.

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART D

Code	Reference	Question	Affected regulation	Determination	Discussion
D-1	General Public Utilities Corp. Gilbert Plant, New Jersey (Megonnell) 17 April 72	If gas turbine exhaust gases are consumed in a new or modified fossil fuel-fired steam generator as combustion air, would the contribution from the turbine exhaust gases be added to the fossil fuel combustion (boiler) effluent in determining compliance?	60.40	No	Compliance is judged only on the amount of heat and combustion effluents added by fossil fuel. The performance test for determining compliance must be conducted with no interference from the turbine exhaust gases.
D-7	Texaco, Anacortes, Wash. (Allen) 17 May 73	c) How would the performance test be conducted for a fossil fuel-fired steam generator which burns waste byproducts as supplemental fuel?	60.46(b)	Conditional	Such unit would be required to fire 100% fossil fuel during the performance test. The test should be conducted at or above the normal steam production rate, but preferably at design capacity in order to avoid the necessity of additional tests if normal operating capacity is increased.
D-8	Northern Ill. Gas Co. Plant, Morris, Ill. (Wilson) 25 June 73	a) Would an abnormal unavoidable short term peak operation of an existing unit above its design capacity bring the unit within the applicability of NSPS?	60.40	No	The applicability is based on the maximum design capacity of the affected facility, not the operating rate. Furthermore, the standards were not intended to cover abnormal operations of any affected facility. As indicated in 60.8(c), performance tests should be conducted under conditions of representative performance (i.e., the conditions under which the facility would operate in a normal manner).
		b) Is vaporized naptha which is burned in a new steam generator subject to NO_x standards for gaseous fossil fuel?	60.44	Yes	Vaporized naptha is a gaseous fossil fuel and thus, a unit burning this fuel would be subject to standards for NO_x applicable to gaseous fuels.

Code	Reference	Question	Affected regulation	Determination	Discussion
		c) Would a calculated value for NO_x emissions based on fuel and air rates of the boiler be acceptable to meet the performance test or the monitoring requirements for a steam generator?	60.46, 60.45	No, Yes	EPA cannot presently accept a calculated value for NO_x emission standards. Performance tests must be conducted. However, this calculation approach may be used for converting continuous monitor measurements from ppm to lb/MM Btu.
D-10	Foster Wheeler Corp. (Wilson) 6 July 73	a) Can the performance test for particulate matter be waived for gaseous fossil fuel-fired steam generators?	60.46	Yes	A waiver of performance test may be granted if the owner or operator of a source demonstrates by other means to the Administrator's satisfaction that the affected facility is being operated in compliance with the standards.
		b) Can the continuous monitoring of smoke opacity be waived for kerosene and distillate oil-fired steam generating units?	60.45	No	Only continuous monitoring of smoke opacity for gaseous fossil fuels is exempt from the regulation.
		c) If identical steam generating units with a common air pollution control system and a common stack are burning the same fuel, how would the performance tests be conducted?	60.46(b)	Conditional	Performance tests should be carried out with all units firing simultaneously. Performance tests should be conducted at or above the maximum steam production rate (preferably at design capacity in order to avoid the necessity of additional tests if normal operation capacity is increased) while fuels representative of normal conditions are being burned.

Code	Reference	Question	Affected regulation	Determination	Discussion
		d) If a different fossil fuel is consumed in each of the identical steam generating units with a common air pollution control system and a common stack, how would the performance tests be conducted?	60.8(c)	Conditional	Performance tests should be conducted for each unit separately in order to ensure that no one unit is exceeding the standard and also for all units together in order to ensure that the control device is equally effective under full load. When all units are tested together, the formulae of 60.43(b) and 60.44(b) apply for SO_2 and NO_x respectively.
		e) Is naptha a fossil fuel?	60.41(b)	Yes	It is a derivative of petroleum, derived for the purpose of creating useful heat.
		f) Is bagassee a fossil fuel?	60.41(b)	No	It is not a derivative of coal, petroleum, or natural gas.
D-17	Foster Wheeler Corp. (Wilson) 23 Oct 73	The combustion of fossil fuel provides necessary heat to an emissions control device. If the flue gas is recovered in the boiler, would the emissions from the flue gas be counted in determining the compliance of the boiler?	60.40	No	This is considered the recovery of a waste byproduct. Therefore, the flue gas would be excluded. The performance test would have to be conducted without recovery of the flue gas to prevent interference.
	Update: Foster Wheeler (Wilson) 22 April 75	Can the performance test be conducted with the emissions from the boiler and sandheater (not affected) combined?	60.40	Yes	As long as there is a means for determining the amounts of pollutants added to the boiler emissions by the sandheater.

Code	Reference	Question	Affected regulation	Determination	Discussion
D-30	Weyerhaeuser Co., Plymouth, N.C. (Wilson) 11 April 74	Is the proposed hogged fuel boiler for Weyerhaeuser's facility at Plymouth, N.C. subject to NSPS?	60.40	Yes	The proposed boiler will be fired with more than 250 MM Btu/h fossil fuel heat input. The hogged fuel does not constitute fossil fuel as defined by 60.41(b). Therefore, compliance will be determined only on the amount of heat and combustion effluents added by the fossil fuel. Performance tests should be conducted with the boiler consuming 100 percent fossil fuel at or above the normal steam production rate, but preferably at design capacity. Update: A revision of NSPS Subpart D published in 41 FR 51397 on 22 Nov 76 includes burning of wood residues in combination with fossil fuel for use as a dilution agent in complying with the SO_2 standard. All standards must be complied with when combusting this combination of fossil fuel and wood waste.
D-34	Dairyland Power Co-op, Alma Wisconsin Plant (Pratt, R-V) 15 May 74	a) What degree of sulfur content (maximum, minimum, intermediate) in coal would be considered representative conditions for a performance test?	60.8(c)	Conditional	Performance testing while burning coal with the maximum expected sulfur content would be required in order to assure compliance under the worst possible conditions.
		b) Can EPA determine violation of the SO_2 emissions over the period of a year?	60.8(f)	No	Current regulations determine violation of the emission standard by a performance test which calls for 3 consecutive sampling runs of approximately 1 hour duration each. Thus the regulations provide for an averaging time of approximately 3 hours. Each sampling run consists of two 20-minute samples taken at 30-minute intervals.

Code	Reference	Question	Affected regulation	Determination	Discussion
D-35	Internal memorandum (Wilson to John Doyle, R-VI) 12 June 74	b) How would the NO_x emission test be conducted for two steam boilers (fossil fuel input and carbon black waste off-gas input) which vent to a common stack?	60.45	Conditional	Since the two subject boilers each have a fossil fuel potential of greater than 250 MM Btu/hr and both vent to a common stack, it is acceptable to only test NO_x emissions from the one stack with the boilers fired with 100% fossil fuel at their design capacity.
D-38	Shell Oil Company (McDonald, R-V) 27 Sept 74	a) Can one sample for SO_2 be as long as 70 minutes?	60.46(d)	Yes	60.46(d) requires a minimum sampling of 20 minutes. It does not specify a maximum time.
		b) What constitutes a complete sampling run for SO_2?	60.46(d)		A complete sampling run requires two samples taken at approximately 30 minute intervals. The total elapsed time for one run under the conditions suggested by the Company would be 170 minutes (70+30+70).
		c) How is compliance determined?	60.8(f)		Each performance test for compliance will require three separate runs. Compliance will then be determined on the basis of the arithmetic mean of the three runs.
D-40	Internal memorandum (Wilson to Doyle, R-VI) 11 April 75	a) Shell Chemical Company is installing a natural gas/pitch-fired steam generator. Is pitch fossil fuel?	60.41(b)	No	Pitch is a byproduct in Shell's olefins process and it is not derived for the purpose of creating useful heat.
		b) How should the performance tests be conducted?	60.8, 60.46		The unit should be fired with 100% natural gas. The proposed sampling location is adequate for gaseous sampling. Only one sampling point is necessary for NO_x and Orsat sampling. The sampling point in the duct shall be at the centroid.

Code	Reference	Question	Affected regulation	Determination	Discussion
		c) May the following performance tests be waived:	60.8(b)		
		1. A waiver on the determination of stack gas velocity and volumetric flow rate (Method 2) and in lieu calculate the flue gas flow using a mass and heat balance on the steam generator?		Yes	
		2. A waiver on the determination of moisture in the stack gas (Method 4) and instead use of Orsat (Method 3) plus the computed products of combustion, based on an ultimate fuel analysis and heating value, to determine moisture?		Yes	
		3. A waiver on the determination of particulate emissions (Method 5)?		Yes	
		4. A waiver on the determination of sulfur dioxide emissions (Method 6)?		Yes	
		5. A waiver on the visual determination of the opacity of the emissions (Method 9)?		Unnecessary	Method 9 is not a performance test.
D-46	Foster Wheeler (Stevens) 28 May 75	Are emissions from fuel combustion which is necessary to operate a boiler emissions control device subject to Subpart D?	60.42, 60.43	No	Providing means exist to identify and measure boiler emissions separately, only the steam generator emissions are subject.

Code	Reference	Question	Affected regulation	Determination	Discussion
D-48	Letter (B. Beals to D. Hazele) 12 March 76	a) Should the Btu contribution and subsequent NO_x, SO_2 and particulate emissions from a flue gas reheat system which complements a Flue Gas Desulfurization system be considered in determining compliance with NSPS?	Subpart D	No	Since the fossil fuel used for the reheat system is not used to generate steam, its Btu contribution is not considered in determining compliance with NSPS.
		b) Should NO_x, SO_2 and particulate emissions from such a reheat system be considered in determining NSPS compliance?	60.46, 60.8(b)	Conditional	Emission tests may be conducted either by not heating the fuel or in some other manner acceptable to the Administrator.
D-49	Letter (G. Stevens to C. Lauer) 4 March 76	a) How do NSPS apply to steam generators firing a combination of either fossil fuel, municipal waste, and wood waste materials, or municipal waste and wood-waste materials exclusively?	Subparts D and E		If a steam generator is burning a combination of fossil fuel and municipal or wood waste materials, it is subject to Subpart D if it is designed to burn greater than 250 million Btu per hour of fossil fuel heat input. Since the waste materials are not fossil fuels, as defined by 60.41(b), the performance test would have to be conducted with the unit burning 100% fossil fuel. Steam generators designed to burn municipal wastes or wood waste materials exclusively are not subject to Subpart D; however, if a municipal waste steam generator is burning more than 50 tons per day of solid waste, as defined by 60.51(b), then it is subject to NSPS for incinerators (Subpart E).

Code	Reference	Question	Affected regulation	Determination	Discussion
					Update: A revision of NSPS Subpart D published in 41 FR 51397 on November 22, 1976 includes burning of wood residues in combination with fossil fuel for use as a dilution agent in complying with the SO_2 standard. All standards must be complied with when combusting this combination of fossil fuel and wood waste.
		b) What is the definition of fossil fuel?	60.41(b)		Fossil fuel means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such materials for the purpose of creating useful heat.
		c) Do NSPS limit gaseous emissions of ammonia, SO_2, or organic compounds from solid waste incinerators?	Subpart E	No	
D-55	Memo (R. Wilson to Regions I-X) 14 April 76	May a source whose NO_x monitoring requirement is contingent upon the results of the performance test be allowed up to 6 months after the performance test is conducted before installing such equipment?	60.13(b), 60.45(c), 60.8, 60.44	Yes	The regulations will be revised accordingly.
D-70	Memo (Reich to Air Engineering Branch Chief, R-IV) 12 Jan 77	May a fossil fuel-fired steam generator which uses a supplementary nonfossil fuel other than wood waste fuel be allowed to have the heat input of the supplementary nonfossil fuel included for determining compliance with NSPS?	60.45(f)(6)	No	Subpart D has no provisions for allowing the heat inputs from nonfossil fuels other than wood residue fuels to be included for determining compliance. Such a generator must fire only fossil fuel (and wood residue) during performance tests.

Code	Reference	Question	Affected regulation	Determination	Discussion
D-78	Memo to R-VII (E. Reich to R. Markey) 29 June 77	How is soot-blowing to be included in performance tests for fossil fuel-fired steam generators which have noncontinuous, nonautomatic soot-blowing?	60.8		Units which do not blow soot continuously may have the effect of soot blowing included by performance testing in the normal manner, provided: 1) soot blowing is permitted only during one of the test runs (if greater than 50% of particulate emissions occur during soot blowing periods, then soot blowing should be required during 2 test runs), and 2) the soot blowing performance test run should include as much of the soot blowing cycle as possible. When a short duration soot blowing period limits the number of points which will be sampled during the portion of the test run that the soot blowers are on, then all of the sampling points lying on at least one stack or duct diameter should be sampled while the soot blowers are on, if possible. The representative average pounds of particulate emissions per million Btu (E) must be calculated by the following generalized equation rather than by simple averaging as outlined in 40 CFR 60.8(f): $E = E_{SBR} \frac{(A+B)\ S}{AR} + E_{NOSB} \frac{(R-S}{R} - \frac{BS)}{AR}$

Code	Reference	Question	Affected regulation	Determination	Discussion
					where: E = pounds of particulate emissions per million Btu heat input (lb/MM Btu or ng/J) $\bar{E}$ = average E for daily operating time E_{SBR} = average E of sample(s) containing soot blowing E_{NOSB} = average E of sample(s) with no soot blowing A = hours soot blowing during sample(s) B = hours not soot blowing during sample(s) containing soot blowing R = average hours of operation per 24 hours S = average hours of soot blowing per 24 hours If a significant variation in the quantity of excess air is expected, then an additional analysis should be conducted.
D-81	Memo to R-IV (E. Reich to T. Gibbs) 1 Nov 77	Will a boiler which burns a combination of wood waste, spent sulfite liquor, and oil, be subject to NSPS?	Subpart D	Yes	The boiler should be performance tested while firing a representative combination of fossil fuel and wood waste at or above the normal operating rate, but preferably at design capacity.

Code	Reference	Question	Affected regulation	Determination	Discussion
D-85	Memo to R-VI (E. Reich to A. Harrison) 3 March 77	Does pyrolysis fuel oil constitute fossil fuel?	60.41(b)	No	However, if a new steam generator which burns pyrolosis fuel oil is designed to burn more than 250 mm Btu/hr of fossil fuel, then it will be subject to NSPS, Subpart D, and should be performance tested while burning 100% fossil fuel at or above normal steam production rate, but preferably at design capacity.
D-86	Memo to R-III (E. Reich to S. Wassersug) 6 Sept 78	May particulate matter and SO_2 performance tests be waived for a steam generator which will burn #2 fuel oil?	60.8 (b)(4)	Yes	Uncontrolled emissions are well below the standard. The facility is subject to continuous monitoring that will indicate excess emissions, and fuel analysis may be required at any time to assure compliance with the standard. The source is required to notify EPA immediately if it switches to a dirtier fuel which may have the potential to exceed the standard.
D-95	Memo (Reich to Ullrich) 11 Aug 80	a) Determine a procedure for calculating the NO_x emission rate and emission limitation for a performance test to be conducted on a boiler burning a combination of fossil and nonfossil fuels.			The emission limitation used for a performance test should be that limitation specified in 40 CFR 60.44. This limitation specifies a mass per unit of heat input derived from fossil fuel. Therefore, Subpart D requires that 100% fossil fuel be burned during the performance test; the only proration procedure allowed is for a combination of fossil fuels, or a combination of fossil and wood residue fuels.

Code	Reference	Question	Affected regulation	Determination	Discussion
D-98	Memo (Reich to Gardebring) 21 Nov 80	a) Are ramping and soot blowing cycles considered representative conditions for coal-fired steam generators?	60.8(c)	Soot blowing-yes Ramping-no	Soot blowing is a normal part of every source operation, and it would be artificial to cut the cycle off during the performance test. Soot blowing was considered in developing Subpart D and in subsequent amendments to that standard. Ramping is not necessarily representative of source operation, particularly in this case where the source in question is base loaded. Additionally, there is little evidence to support a contention that ramping was considered in the original Subpart D testing data.
		b) Under what circumstances can Method 17 be substituted for Method 5, in performance testing?	40 CFR 60 Appendix A		Method 17 can be used as an alternative to Method 5 at fossil fuel-fired steam generators when: 1) the flue gas temperature at the sampling location is consistently less than or equal to 320°F and 2) the flue gas at the sampling location is unsaturated with water vapor. For flue gases unsaturated with water vapor and having temperatures greater than 320°F, the acceptance of Method 17 as an alternative to Method 5 will be based on the demonstration that the particulate matter concentration determined by Method 17 is greater than or equal to the particulate matter concentration that would be measured by Method 5 at a temperature of 320°F. If site specific sampling logistics preclude or compromise the use of Method 5, requests for the alternative use of Method 17 should be addressed to the appropriate regional office.

Code	Reference	Question	Affected regulation	Determination	Discussion
Da IV-6	Letter to Seminole Electric Cooperative Inc. (J. Wilburn to M. Opalinski) 4 April 83	1. Section 60.8(c) requires EPA to determine the conditions of the test. Presumably this pertains to the MW load of the plant during testing. Does EPA have a policy as to a performance test load?	Subpart Da		1. It is EPA policy to allow a source owner to test his source(s) at any rate he may choose, however, we recommend that testing occur at maximum production capacity. Testing must be done with the understanding that particulate emissions may have to be retested if the production rate that occurred during initial testing is exceeded by 10%.
		2. The Seminole plant FGD system consists of 5 modules/units (one is a spare). However, each module can be operated with either three or four spray levels/module. Is it Seminole's option to run the performance tests with either 3 or 4 levels?			2. Any number of spray levels in the FGD module and any number of modules may be operated as long as the SO_2 mass emission limit and percent reduction requirement, as indicated by the certified continuous SO_2 emission monitors, are met.
		3. If during a given month, the NO_x 30-day rolling average is violated, is it necessary to calculate the percent reduction and include in quarterly report?			3. It is not necessary to calculate the percent reduction of NO_x since there is no method available to make this calculation.
		4. The Seminole FGD system has been designed with spare module capability. Does Seminole have to request a decision by the Administrator to determine if this must be demonstrated? If yes, how long is the test? Must it be a separate test from the initial performance test? Can Seminole take credit for additional spray levels?			4. The spare FGD module should be tested during the initial 30-day compliance test. The spare module should be substituted for one of the other FGD modules during 15 days of the initial tests.

Code	Reference	Question	Affected regulation	Determination	Discussion
		5. Is it necessary to perform a Method 6 test each day for 30 days to determine the 30-day rolling average or can the CEM system be used after the initial performance test? Is it necessary to also perform a Method 7 test for 30 days to determine the NO_x average?			5. The data from a certified SO_2 and NO_x continuous emission monitor can be used to determine the 30-day rolling average. Methods 6 and 7 tests are not required on a daily basis if the monitors are operating properly.
		6. For the initial 30-day test, what is the minimum amount of SO_2 or NO_x samples necessary for a valid test? If, for example, the unit runs for 15 days, is off for 10 and then comes back on, can the first 15 days be applied to the test or must the 30-day period begin again?			6. As a general rule, the time the generating unit is operated before shutdown can be applied to the 30-day average. However, this situation will be evaluated as necessary on a case-by-case basis.
		7. Does 60.47(f) require 18 hours per day of manual testing in 22 of 30 successive operating days or 18 hours total in 22 out of 30 successive operating days?			7. 40 CFR 60.47(f) requires a minimum of 18 hours per day of manual testing for a minimum of 22 out of 30 successive operating days.
		8. In the calculation of B_{ws}, is a default value as shown on a psychrometric chart according to exit temperature acceptable?			8. The use of the default value psychrometric chart equating measured stack temperatures with an assumed saturated stack gas condition is acceptable. The use of this approach will result in a higher value of B_{ws} and consequently a higher value for the pollutant mass rate. The magnitude of this high bias, however, should only be in the range of 1 to 2 percent.

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART F

Code	Reference	Question	Affected regulation	Determination	Discussion
F-2	Internal memorandum (Wilson to Beals, R-IV), 8 April 75 and 15 May 75	How does a portland cement plant which utilizes the kiln exhaust to heat the feed to the dryer apply to NSPS?	60.60		The feed rate to be used in determining compliance of the kiln shall be the feed rate to the kiln only. Section 60.62(a) states that "no owner or operator....shall cause to be discharged into the atmosphere from any kiln any gases which..... contain particulate matter in excess of 0.15 kg per metric ton of feed (dry basis) to the kiln". The performance test should be conducted with the feed to the dryer shut off.
F-6	Letter to Portland Cement Assn. (W. Johnson to C. Schneeberger) 24 June 76	How do NSPS emissions standards apply to a new operation involving a 4 stage preheater with a precalciner and bypass from which there are two outlets for emissions?	60.62(a)(1), (2)		With the bypass closed, the system must meet the particulate emission and opacity standards of 60.62(a). With the bypass open, simultaneous sampling at both outlets must yield a combined particulate emissions rate no greater than .30 lb/ton of feed and each emission point is limited to a 20% opacity requirement.

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART H

Code	Reference	Question	Affected regulation	Determination	Discussion
H-4	Letter to 3M Company (T. Voltaggio to D. Benforado) 19 Oct 76	Is SO_2 testing with Matheson-Kitagawa gas detection tubes every six months an acceptable alternative to SO_2 continuous monitoring for sulfuric acid plants?	60.13, 60.84	No	Using these tubes, a sample could only be drawn from a point several inches inside the stack, and only 100 cc of sample is withdrawn. Also, determining stack gas flow from process inlet air compressor curves is of questionable accuracy. These tubes are not designed for and are not suitable for measuring effluent emission levels from process stacks.
H IV-13	Letter to R-iV (G. Walsh to W. Smith) 18 Aug 81	Are the following procedures for particulate measurement in stacks with cyclonic flow as outlined in the Florida DER regulations for sulfuric acid plants acceptable: 1. For average flow angle $10^0 < 20^0$, sampling and velocity measurements are conducted as specified in Method 6 with the addition of the determination of flow angles at each traverse point. These flow angles are used in calculating uneffective nozzle area for determining isokinetic rates. There is no correction for velocity or flow rate determination.	40 CFR 60 Subpart H	1. Acceptable	1. The nozzle area correction procedure is acceptable for the purpose it is intended. There should be a provision for using absolute values of the $COS\alpha$ in the equation in order to avoid subtracting values incorrectly. There is a possibility of a bias in the velocity measurements due to the flow angles encountered. The Type-S pitot tube develops a positive bias in response when flow angles deviate from the pitot axis from about $-30^0 < \alpha < 30^0$ with a peak bias occurring at about $\pm 15^0$. This bias can be as much as 10% in the ΔP reading or about 5% in the velocity determination.

Code	Reference	Question	Affected regulation	Determination	Discussion
		2. For average flow angle >20° a time-compensated, alignment technique is used.		2. Recommended using the alignment method without time compensation	2. Results of studies show that the time-compensated alignment method produces a positive bias. The bias is a result of radial flow of particulate toward the stack walls and an over-compensation in sampling at the points near the stack walls. Data from tests conducted at a simulated cyclonic flow source showed that the positive bias averaged over 20%. The alignment method without time compensation is recommended. Experience shows that the alignment method produces results with a small negative bias which averages about -5% to -15%.
H IV-19	Letter to Florida DER (P. Westlin to D. Harlos) 30 June 81	Are Teflon probe lines suitable for use in sampling SO_2 and H_2SO_4 emissions from sulfuric acid plants?	40 CFR 60 Subpart H and Appendix A	Yes	Teflon is an inert material when applied to the type of sampling you describe. It can be heated to high temperatures (200°C), does not react with either the sample nor the absorbing solutions, and is durable enough to withstand the rigors of source testing.

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART I

Code	Reference	Question	Affected regulation	Determination	Discussion
I-3	Internal memorandum (Wilson to Wassersug, R-III) 5 Dec 74	Are asphalt plants mounted on trucks ("Asphalt-Mobile" plants) subject to NSPS?	60.90	Yes	The background document (APTD-1352c) at page 119 indicates there is no justification for not including portable plants under the standard. Initially, performance tests should be conducted on each affected facility until the Regional Office is reasonably confident that Asphalt-Mobile plants are consistently achieving compliance with NSPS. Once consistent compliance is assured, performance tests may be waived in accordance with Section 60.8(b)(4) of NSPS.
I-11	Memo to R-IV (E. Reich to E. Stephenson) 21 Mar 77	How should performance tests be conducted for a plant which is recycling asphalt?			Performance tests should be conducted while processing recycled materials in the normal manner at or above normal production rate, but preferably at design capacity.
I-12	Memo to R-X (E. Reich to R. Bauer) 28 Sept 78	Is one performance test run performed on an asphalt concrete plant with an apparently adequate control device sufficient to determine compliance with NSPS, Subpart I?	60.3	No	The source should be required to conduct performance tests in accordance with the requirements of 40 CFR 60.8.

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART J

Code	Reference	Question	Affected regulation	Determination	Discussion
J IV-1	Letter to Memphis and Shelby County Health Department (B. Beals to T. Dale) 10 Feb 81	Can sulfate particulate that is formed on the Method 5 filter during testing of a fluid catalytic cracking unit be determined by chemical analysis and discounted in determining the emission rate?	60.102 and 60.106		Solid sulfates must be considered to be included in the definition of "particulate". The company may exclude the sulfuric acid catch by sampling at a probe and filter temperature of 350°F and then drying the filter at 350°F for one hour before sample weighing. All other procedures should follow those of the standard Method 5.
J VI-14	Letter to R-VI (G. McAlister to D. Ramirez) 30 Nov 79	Request approval of the following modifications to Method 11 to extend the normal measuring range:	40 CFR 60 Appendix A		
		1. Increase cadmium sulfate absorption solution concentration to 0.39 M (100 g/L) from 0.16 M.		1. Approved	Points 1, 4, and 5 are all concerned with increasing the absorption capacity of the sample train. These changes would be permissible since they would have no effect on the method. However, based on an estimated sample gas concentration of 8400 ppm H_2S and the recommended sampling time of 10 min, the modified sampling train could collect over 100 times as much H_2S as there would be in the sample. It might be more convenient to leave the concentration of the absorbing solution unchanged and use 150 ml of solution per wash bottle.
		2. Increase standard iodine solution concentration to 0.1 N from 0.01 N.		2. Approved	
		3. Increase standard sodium thiosulfate solution concentration to 0.1 N from 0.01 N.		3. Approved	
		4. Increase sampling train absorption solution volume to 200 ml/gas washing bottle from 15 ml/impinger.		4. Approved	
		5. Use 500 ml gas washing bottles instead of 30 ml midget impingers.		5. Approved	
		6. Use a wet test meter, 3 ℓ/revolution, with accuracy of ±1/2% instead of dry gas meter. Silica gel drying tube eliminated.		6. Approved	Points 2 and 3 are concerned with increasing the range of the analysis procedure. Both suggestions are acceptable and would produce the desired increase in measuring range.

Code	Reference	Question	Affected regulation	Determination	Discussion
		7. Elimination of hydrogen peroxide scrubbing solution upstream of cadmium sulfate absorption train.			Point 6 is acceptable since it would produce no significant change in the procedure. Point 7 requests the elimination of the peroxide scrubber. The peroxide scrubber removes SO_2 and certain other water soluble organics that can interfere in the analysis. Thus far, all the interfering species that EPA has identified are positive inteferents. While it would be acceptable to EPA to eliminate the peroxide scrubber, it might unfairly penalize sources that are in compliance but have high concentrations of the interferents in their gas streams.

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART K

Code	Reference	Question	Affected regulation	Determination	Discussion
Ka IV-4	Letter to Mississippi Department of Natural Resources (C. Jeter to C. Chisolm) 24 Mar 83	Company requested a deviation from the testing procedure of 40 CFR 60, Subpart Ka, which would allow testing the primary and secondary seals of floating roof tanks while filled with water instead of petroleum liquid. Tanks must be filled with water for 120 days to allow settling since tanks are not supported by piles.	Subpart Ka Paragraph 60.113a	Deviation approved	

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART L

Code	Reference	Question	Affected regulation	Determination	Discussion
L-2	Memo (Reich to Geiselman) 5 Jan 81	A rotary kiln subject to NSPS is controlled by two baghouses. A process baghouse controls charging and smelting emissions, and a separate sanitary baghouse controls tapping emissions. Tests of the process baghouse show a violation of the NSPS. Do emissions from the sanitary baghouse need to be determined?	60.122, 60.123(b)	No	Emissions from the sanitary baghouse do not have to be tested, and should not be combined with the emissions from the process baghouse in order to determine compliance with the particulate standard. This is based on two factors. The test data used in development of the standard did not include emissions data from any sanitary baghouse. Also, this decision agrees with 60.123(b), which states that "particulate sampling shall be conducted during representative periods of furnace operation, including charging and tapping". Hence, the standard applies to the emission stream being ducted through the capture device that leads to the process baghouse during all phases of furnace operation, but does not apply to any emission streams being ducted through other capture devices during tapping.

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART N

Code	Reference	Question	Affected regulation	Determination	Discussion
N-2	Letter to AAPCC (J. Farmer to T. Owen) 8 Nov 78	a) Is the Q-BOP process of steel production an affected source under 40 CFR 60, Subpart N?*	Subpart N	Yes	A Q-BOP furnace is an affected facility. This was stated explicitly in the preamble to the BOPF opacity standard when it was promulgated on April 13, 1978 (43 FR 15600).
		b) What portion of the production cycle should the test encompass? Are the turndown periods between oxygen blows sampled or are these periods excluded from the test period?	60.144		The regulation states: For Method 5, the sampling for each run shall continue for an integral number of cycles with total duration of at least 60 minutes. The sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Administrator. A cycle shall start at the beginning of either the scrap preheat or the oxygen blow and shall terminate immediately prior to tapping. A cycle starts at the beginning of the scrap preheat in the furnace vessel, or, when there is no scrap preheat in the furance, it starts at the beginning of the oxygen blow. A cycle terminates immediately prior to tapping. Typically, the turndown (for melt sampling) is a period of low emissions. A source might be tempted to extend these periods unduly during a performance test in order to dilute the total emissions, which are measured on a mass concentration basis under the standard. Such

*Please note that this supersedes determination N-1 dated August 11, 1977.

Code	Reference	Question	Affected regulation	Determination	Discussion
					circumvention of the standard is precluded by Section 60.8(c), which reads: Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. It should be expected to decrease the emission concentration.
		c) Does the inclusion of scrap preheat and hot metal charge increase or decrease the emission concentration as opposed to sampling only the oxygen blow period?			
N III-12	Letter to R-III (D. Goodwin to S. Wassersug) 9 Sept 82	Can high-volume sampling be used as an alternative to EPA Method 5 for positive pressure baghouses?	40 CFR 60 Subparts N and AA	Alternative method disapproved	Direct comparative testing of hi-vol methods and EPA Method 5 techniques have shown significant differences between the results. The results of in-house tests have shown the hi-vol to collect 15% to 30% less material than the comparable Method 5 equipment.

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART O

Code	Reference	Question	Affected regulation	Determination	Discussion
O-1	Internal memorandum (Wilson to Storiazzi, R-I) 19 June 74	For the purpose of performance testing, how should the composition of sewage sludge be segregated into primary sludge and other materials (e.g., grit, grease, screenings, etc.)?	60.150	Conditional	Reference No. 4 listed on page 61 of the background document (APTD-1352a) indicates that a typical feed mixture for a sewage sludge incinerator includes such materials as grease, scum, grit, screenings, supplemental fuels, etc.
O-4	Memo (R. Duprey to Norman Edminston) 27 Feb 76	a) Do NSPS cover grit, scum, and waste lime sludge burned in the furnace along with the sewage sludge?	60.150	Yes	Flow rate measurements must be made of all such inputs.
		b) Do NSPS cover incinerators used wholly for the purpose of reactivating lime sludge?	60.150	No	Where nonrecoverable waste lime is combined with sewage sludge in a sewage sludge incinerator, the standard is applicable.
		c) Do NSPS require installation of a continuous monitoring device for monitoring, recording, and storing data on sewage sludge charged to the furnace?	60.153(a)(1)	No	The purpose of the monitoring device is to measure sludge input to the furnace during the compliance test.
O-6	Memo (Acting Director, DSSE to J. McDonald) 12 Aug 76	a) Is a grit/coarse screenings incinerator subject to the particulate sewage treatment plant NSPS?	60.150	Yes	In the June 11, 1973 Federal Register, sewage sludge is defined as the waste byproduct of municipal sewage treatment processes, including any solids removed in any unit operations of such treatment process. Even though this definition was removed when the regulations were promulgated, it is our feeling that this definition supplies the intent of the final promulgation.

Code	Reference	Question	Affected regulation	Determination	Discussion
		b) Should monitoring and performance testing be based on the total dry solids input of grit and screenings?	60.153, 60.154	Yes	
		c) Would a grit/coarse screenings incinerator be subject to the particulate incinerator NSPS-Subpart E if it burned: 1) more than 50 tons per day of wet solids? 2) more than 50 tons per day of dry solids?	60.51(b)	No	Subpart F was designed to cover incinerators burning more than 50% municipal type waste. Grit/coarse screenings are not considered municipal type wastes.
0-10	Memo (Reich to Jacobs) 29 Dec 80	The Papillion Creek Water Pollution Control Plant has two identical fluid bed sludge incinerators which have met the NSPS emission limitation. One of the incinerators, Unit 321, was tested at a rate of 15,000 pounds per hour (pph), but the operator now wishes to charge the unit at 20,000 pph. Should a new performance test be required at the increased charging rate, for this unit?	60.8, Subpart O, 114 of the CAA	Conditional/ No	Engineering judgment suggests that increasing the sludge load rate of Unit 321 to 20,000 pph would be reasonably expected to result in compliance, and hence a new performance test under 60.8(c) need not be required. Several factors support this: 1) The equivalent unit, which burns the same composition of sludge, was tested at a sludge load rate of 22,000 pph and met the standard with a wide margin of compliance. 2) Unit 321 has met the standard, even though at a lower rate. 3) The low volatile solids content of the sludge used in the Unit 321 performance test caused less efficient burning than would occur if the current type of sludge is burned.

Code	Reference	Question	Affected regulation	Determination	Discussion
					4) The owner has agreed that the ash loading not exceed the ash loading rate during the Unit 321 performance test. This alone is insufficient to ensure meeting the standard because the pressure drop across the scrubber must be controlled as well. Specifying sludge and ash loading limits or a type of sludge to be burned are not requirements which must be met in order for Unit 321 to avoid conducting a performance test, but failure to meet these conditions will lessen the justification for believing this incinerator is in compliance. Additionally, the Nebraska DEC and EPA are free to require an additional performance test at any time at the increased loading rate, based on Section 114 of the Clean Air Act and 40 CFR 60.8(a).

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART R

Code	Reference	Question	Affected regulation	Determination	Discussion
R VI-18	Letter to ASARCO, Inc. (W. Barber to W. R, Kelly) 20 June 78	Request approval for the following alternate sample site locations for NSPS tests on an updraft lead sintering machine: 1. Use of a sampling site located 2.3 diameters downstream and 1.3 diameters upstream from a stack gas flow disturbance for the weak SO_2 bearing off gas stack. Forty-nine sampling points will be used to obtain a representative sample. 2. Use of a sampling site located 4.5 diameters downstream and 1.0 diameters upstream of a stack gas flow disturbance for the strong SO_2 bearing off gas stack. Representative sampling will be accomplished by the use of 36 sampling points.	40 CFR 60 Subpart R and Appendix A		The alternative sampling sites meet the minimum criteria for the location and number of traverse points as required in 40 CFR 60, Appendix A, Method 1; the sites are also acceptable for velocity and particulate sampling traverses as required in Method 5. The alternative sites are, therefore, acceptable for the determination of compliance with NSPS for particulate matter emissions from lead smelters.

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART S

Code	Reference	Question	Affected regulation	Determination	Discussion
S-1	Memo to R-III (E. Reich to S. Wassersug) 19 Jan 78	What is a reasonable percent of the time to expect violations of NSPS considering all emission test data?	Subpart S		NSPS are expected to be met at all times except during periods of startup, shutdown, or malfunction. We have the discretion, however, to require a retest of a facility which fails a compliance test due to what appears to be random variability in emissions.
S IV-10	Letter to Kentucky Department of Natural Resources and Environmental Protection (T. Gibbs to N. Schell)	Anaconda Aluminum has requested the following changes to the testing requirements in Subpart S:	40 CFR 60 Subpart S		
		1. Use the historic mean for primary emissions to calculate total monthly potroom group emissions instead of emissions from the most recent test.		1. Disapproved	1. EPA has concluded that use of the historic average instead of the emission test results from the last test is contrary to the intent of the regulations.
		2. Change the frequency of testing the anode bake plant from one test per month to one per year.		2. Approved	2. This alternative is allowed by Subpart S.
		3. Change the frequency of testing the primary control system from one test per month to one per year.		3. Approved	3. This alternative is allowed by Subpart S.

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART T

Code	Reference	Question	Affected regulation	Determination	Discussion
T IV-17	Letter to Agrico Chemical Company (G. Walsh to C. Kinsey) 16 July 81	Can the "Fluoride Complexone Method" be used for determining compliance with fluoride emission standards for new stationary sources?	40 CFR 60 Subpart T		EPA has promulgated fluoride emission standards for two source categories--primary aluminum reduction plants and phosphate fertilizer plants. In conjunction with these standards, EPA published two test methods, 13A and 13B, either of which could be used to measure fluoride emissions from either source. On June 26, 1977, EPA approved ASTM Method D 3270-73T as an alternative to Method 13A or 13B for determining compliance with the standards of performance for new primary aluminum plants. The ASTM procedure and the Fluoride Complexone Method are very similar, but there is one significant difference. The ASTM procedure contains a manual fusion step which dissolves all the solid material collected in the sample. This step is essential for analyzing samples from aluminum plants and without such a step the Fluoride Complexone Method could not be used as an alternative method for this source. Although the fusion step is not necessary for samples from the phosphate fertilizer industry, EPA has no supporting data to show that the Fluoride Complexone Method would give similar results to Methods 13A or 13B for those kinds of samples.

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART X

Code	Reference	Question	Affected regulation	Determination	Discussion
X-1	Memo to R-VII (E. Reich to E. Stephenson) 11 Aug 77	b) If the granular triple superphosphate contained in a storage facility is more than 10 days old, may performance testing be waived under 60.8(b)(4)?	60.8(b)(4)	Yes	Most fluoride emissions from granular triple superphosphate occur in the first 10 days following manufacture.

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART AA

Code	Reference	Question	Affected regulation	Determination	Discussion
AA-3	Lone Star Steel, Dallas, Texas (DSSE Director to Knudson) 22 April 76	May an EAF with a steam hydro system for emission control use an alternate manual emissions testing method on a yearly basis?	60.273(a)	Conditional	If it is determined by inspection that the steam hydro system necessitates an alternate monitoring method, then the annual emission test would be acceptable. At the time of the performance test, the source is required to monitor all parameters critical to the performance of the control system of the affected facility. The source should then be required to continuously monitor these parameters and to keep appropriate records for EPA inspection.
AA-4	Memo to R-VII (R. Shigehara to D. Durst) 3 Aug 78	Is an alternate testing procedure acceptable for testing two new NUCOR steel electric arc furnaces?	60.8(b)	Yes	The alternate testing method that NUCOR steel suggested will be acceptable in this case. Contact this office if details on the alternate method are desired.
AA-7	Memo (Reich to Seals and Davis) 10 Aug 83	Are fugitive emissions (from charging and tapping operations) which are collected by canopy hoods and vented to baghouses and then through stub stacks, subject to the emission and opacity limits for emissions from control devices, or to the opacity limit for shop emissions?	60.272(a)(1) 60.272(a)(2) 60.272(a)(3)		When fugitive emissions are captured by a control device and then ducted to baghouse controls, they are subject to the standards for emissions from control devices. Only fugitive emissions which escape the collection device altogether (and, in this case, exit through the shop roof monitor) are subject solely to the standard for shop emissions.

Code	Reference	Question	Affected regulation	Determination	Discussion
AA IV-8	Letter to Kentucky Department of Natural Resources and Environmental Protection Cabinet (J. Wilburn to R. McCann) 17 May 83	To perform Method 5D testing on an open top baghouse, can the sample train be modified to use a detached glass nozzle and filter holder? The nozzle and filter holder will be connected to the impingers by 125 ft of Tygon tubing. The impinger section will consist of two impingers, one with water and the other one with silica gel.	40 CFR 60 Subpart AA	Modifications are acceptable	Since the moisture content in the gas stream should be low for this source, the second and third impingers can probably be deleted without consequences. Additionally, care must be used in handling the glass nozzle.

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART GG

Code	Reference	Question	Affected regulation	Determination	Discussion
GG-4	Memo (Johnson to Reed) 11 Dec 80	Alyeska operates two identical gas turbines at Pump Station No. 2 subject to NSPS. One of the turbines has been performance tested, and complied with the emission limits. Will EPA agree to waive the testing requirements for the second turbine?	60.8(b), Subpart GG	Yes	A waiver can be granted if the source owner or operator has demonstrated "to the Administrator's satisfaction that the affected facility is in compliance with the standard". In this case, best engineering judgment suggests the second turbine would meet the standard because: 1. An identical turbine operated at the same site and using the same fuel met the standard. 2. The turbine meeting the standard did so with a large margin of compliance, having NO_x emissions of 45.6 ppm, compared to the standard of 150 ppm.
GG-10	Letter (Reich to Solt) 22 Sept 82	a) Will EPA accept performance tests conducted at the manufacturing site rather than the owner/operator's site?	60.8(b)(3)	Yes	EPA has previously determined (see summary GG-6) that the manufacturer of an NSPS affected gas turbine is considered the original owner/operator. Thus, testing of the gas turbines at the manufacturing site is acceptable providing EPA is notified of such tests and that the tests are conducted under the same conditions as the turbines are to be operated at their final destination. These conditions include fuel quality, fuel flow, and inlet air flow.

Code	Reference	Question	Affected regulation	Determination	Discussion
		b) Can EPA waive, on a case-by-case basis, the requirement for performance tests where a manufacturer has demonstrated through the use of historical data and computer projections that the NO_x emissions from the proposed turbine application fall well within the Subpart GG NO_x standard?	60.8(b)(4) Subpart GG	Yes Conditional	EPA may be able to approve such a procedure, but would need to do so on an individual model and fuel quality basis. EPA is not in a position at this time to establish what significance levels the computer simulations would have to meet for approval. Each such submission should be addressed to the Director, Office of Air Quality Planning and Standards.
GG-13	Memo (Reich to Divita) 20 May 83	Can Gas Processors Association Method 2265-68 be used as an alternative method for the prescribed ASTM Method D 1072-70?	60.333(b); 60.334(b)(2)	Yes	The GPA Method is an acceptable alternative. Because of the pipeline quality of the fuel, a custom schedule of twice a month sampling and analysis, with a record showing a constant supplier or source of fuel, would be sufficient.
GG-14	Memo (Reich to Divita) 21 Oct 83	Can ASTM Method D 3241-81 be used as an alternative for the prescribed ASTM Method D 1072-70? (GPA Method 2265-68 has already been approved as alternative--see GG-13.)	60.13(1)(7); 60.334(b)(2)	Yes	This method is an accepted alternative. The custom schedule agreed to in GG-13 may still be used if documentation of a constant supplier is provided.

Code	Reference	Question	Affected regulation	Determination	Discussion
GG-15-VII	Memo (Walker to Reich and Reich to Walker)	Can ASTM Method D 1945-64 (1976) for the determination of the nitrogen content of natural gas samples and ASTM D 3228-79 for fuel oil samples be used to determine the content of nitrogen in fuel when performance testing of gas turbines?	60.335(a)(2)	Yes	

DECISIONS APPLICABLE TO 40 CFR 60
SUBPART HH

Code	Reference	Question	Affected regulation	Determination	Discussion
HH IV-3	Letter to Tennessee Department of Public Health (J. Wilburn to H. Hodges) Letter to R-IV (P. Westlin to B. Beals) 3 June 82	Can the following modifications to test methods and procedures be used to test a pressurized baghouse at a lime plant?	40 CFR 60 Subpart HH		
		1. The use of Method 8 large impingers for SO_2 testing instead of the Method 6 midget impingers.		1. Approved	1. The sample time specified in Method 6 should be adhered to and each run should consist of two samples.
		2. The use of the "Rader" high volume sampling train to determine the particulate emission rate from the kiln baghouse.		2. Disapproved	2. Data for the regulation setting process for lime plants were collected using EPA Method 5. Emission results obtained with a test method other than Method 5 would not be comparable to the data base used in determining the emission standard. Test data indicates that the high-volume sampling methods result in as much as a 20% lower particulate concentration than do comparable Method 5 tests.
		3. Test one baghouse in a group of baghouses using EPA Method 5 for particulate emission rate determination and then estimate the emissions from the other baghouses in the group by rationing their individual flow rates, as determined by EPA Methods 1 and 2.		3. Disapproved	3. There is concern with the proposal to estimate particulate emissions rate from one or more baghouses based solely on the ratio of volumetric flow rates from these devices to the emission rates determined by EPA Method 5 from one baghouse in the group. Reasons for concern are:

Code	Reference	Question	Affected regulation	Determination	Discussion
					a. Intermediate processes (crushing, grinding, sizing, etc.) can occur from one control device to another. Such process variables will effect such particulate parameters as particle size distribution, particulate loading to cloth area ratio. b. The material(s) from which the bags will be fabricated will have an effect on the collection efficiency of the control device, as well as other design features and operating parameters (condensation and air infiltration in the baghouse, optimum pressure drop, optimum operating temperature, etc.) Because of these reasons, among others, it has been and will be the policy of this office to require that the appropriate compliance test be conducted for each source to which a regulation applies.
HH IV-9	Letter to Kentucky Department of Natural Resources and Environmental Protection (T. Gibbs to G. Slucher) 26 May 81	Can a modified version of EPA Method 16, developed under EPA contract by Harmon Engineering, be used to determine total reduced sulfur emissions from a lime kiln at a paper mill?	40 CFR 60 Subpart HH	Approved	The use of the citrate buffer scrubbing solution located at the source should provide for a higher quality of data since it will reduce the moisture in the gas, remove particulates and remove SO_2 from the gas stream.

DECISIONS APPLICABLE TO 40 CFR 60
APPENDIX A

Code	Reference	Question	Affected regulation	Determination	Discussion
Appendix A VII-16	Letter to Dept. of Community Health and Medical Care (R. Shigehara to M. King) 25 Feb 82	Why is the Aerotherm high-volume stack sampler not acceptable for Methods 13 and 101? Would the same reason apply to Method 12?	40 CFR 60 Appendix A 40 CFR 61 Appendix B		The Aerotherm unit is a higher-volume system (about 3 to 5 cfm) designed for the collection of particulate matter on a filter, whereas Methods 13, 101, and 12 are designed for collection of both particulate and gaseous fluorides, mercury, and lead in impingers at about 0.5 to 1.0 cfm. We have not determined the collection efficiencies for these components at the higher flow rates encountered in the Aerotherm unit.
Appendix A II-11	Letter to Puerto Rico Electric Power Authority (P. Westlin to R. Rosado) 1 Dec 82	Can the filter be separated from the impinger section to facilitate testing in difficult locations?	40 CFR 60 Appendix A	Modifications to sampling equipment approved	
Appendix A III-1	Memo to R-III (McAlister to Ferdas) 29 Oct 80	Can the Pennsylvania Dept. of Environmental Resources method for determination of sulfur oxide be used as an alternative for Methods 6 and 8?	40 CFR 60 Appendix A and Subpart H	Yes	This procedure is an acceptable alternative for measuring SO_2 emissions. However, if it is to be used to measure sulfuric acid mist, SO_3, and SO_2 emissions from sulfuric acid plants, it will be acceptable only if the following changes are made: 1. The efficiency of the filter inserted after the 80% isopropyl alcohol impinger should be specified as 99.95% for 0.3 micrometer DOP smoke particles. Glass wool plugs are not satisfactory. 2. Sample traversing must be specified.

Code	Reference	Question	Affected regulation	Determination	Discussion
Appendix A A-36	Letter to the Netherlands (E. Reich to J. Jelgersma) 13 April 77	a) For mass measurement of particulate matter, are more than 12 sample points ever required?	Reference Method 1	Yes	More than 12 sample points may be required as dictated by Method 1.
		b) For oxygen measurement, are more than 12 sample points ever required?	Reference Method 1	No	No more than 12 sample points are ever required for oxygen measurements.

DECISIONS APPLICABLE TO 40 CFR 61
SUBPART F

Code	Reference	Question	Affected regulation	Determination	Discussion
F V-15	Letter to B. F. Goodrich Company (W. Grimely to R. Hall) 15 Oct 81	1. Can the number of vinyl chloride concentration calibration points be reduced from 4 to 3?	40 CFR 61 Subpart F and Appendix B	1. Modification approved	1. It is acceptable to reduce the required number of vinyl chloride concentration calibration points from 4 to 3. The analysis of each concentration should be repeated until two consecutive values for the total area of the vinyl chloride peak do not differ more than 5% and the average value for these two total areas is used in the derivation of the calibration curve.
		2. Can a full instrument calibration be performed weekly with a single point calibration confirmation once per plant shift or once per instrument carousel operation if the carousel operation is less frequent than once per shift?			2. It is believed that this change from the requirement in Method 107 of a complete calibration every 8 hours will be acceptable provided that a proper criterion is established to determine when calibration is confirmed. A reasonable representation of modern gas chromatograph calibration capabilities would be given by establishing a criterion of obtaining a value within ±5% of the calibration curve value.
F II/VI-1	Memo to R-II and VI (Grimley) 21 Sept 78	Can the following Tenneco test methods be used as alternate methods to EPA Methods 106 and 107? 1. GCF 1.0A: Determination of vinyl chloride content in polyvinyl chloride resin samples (dated 5/2/78), and GCF 4.0: Determination of vinyl chloride content in polyvinyl chloride resin slurry samples (dated 5/2/78) for Method 107.	40 CFR 61 Subpart F and Appendix B		Based on information supplied by Tenneco, these alternate procedures are approved with one exception, as follows: The procedure for using the 5 ml syringe to take an aliquot from both a bag and a sample bomb must be addressed. Needle void volumes must be purged by initially overfilling the syringe.

Code	Reference	Question	Affected regulation	Determination	Discussion
		2. GCF 3.0: Determination of vinyl chloride from stationary sources (dated 6/19/78) for Method 6.			

DECISIONS APPLICABLE TO 40 CFR 61
SUBPART H

Code	Reference	Question	Affected regulation	Determination	Discussion
H IV-2	Letter to R-IV, Air Facilities Branch (G. Walsh to T. Gibbs) 23 Dec 81	Can a gas scrubber system composed of three impingers, (consisting of one empty and two containing isopropanol) submerged in an ice bath be added to the front of the Method 110 sample train to be used at a source with high moisture? Analysis will consist of analyzing isopropanol by GC with FID, water by Karl Fischer aquametry, and Tedlar bag by GC with FID.	40 CFR 61 Subpart H and Appendix B	Acceptable with appropriate QA/QC procedures	QA should involve analysis audit of liquid benzene/isopropanol standards. QC should include appropriate sample train operation and sample train operation and sample recovery procedures to ensure that no loss of benzene occurs.